In the Claims:

1.   (Original) In an electronic device that provides a graphical modeling environment, a method, comprising the steps of;

      providing a first signal type for a signal in the graphical modeling environment; and

      defining a second signal type that inherits from the first signal type

2.   (Original) The method of Claim 1, wherein said first signal type is associated with a block in the graphical modeling environment.

3.   (Original) The method of Claim 2, wherein said second signal type is associated with the block in the graphical modeling environment.

4.   (Original) The method of Claim 2, wherein said second signal type is associated with another block in the graphical modeling environment.

5.   (Original) The method of Claim 1, further comprising the steps of,

      providing a block in the graphical model environment having a structure and operation for operating on the first signal type;

      receiving on an input node of the block a signal of the second signal type; and

      processing a portion of the signal in the block, wherein said block being free of structure and operation for operating on the second signal type.

6.   (Original) The method of Claim 5 wherein said input node comprises a graphically rendered port viewable by a use of said graphical modeling environment.

7.   (Original) The method of Claim 1, wherein at least one of a signal of said first signal type and a signal of said second signal type are visually depicted in the graphical modeling environment.

8.   (Original) The method of Claim 1, wherein the step of defining includes a step of a user defining the second signal type using an interface to the graphical modeling environment.

9.   (Original) The method of Claim 1, wherein the definition of the second signal type is derived from the components of the graphical modeling environment.

10.   (Original) The method of Claim 5, wherein said step of processing comprises the step of processing the portion of the second signal of the second signal type derived from the first signal type.

11.   (Original) The method of Claim 5, further comprising the steps of:
        generating one or more signals of the first signal type using the block; and
        outputting the one or more signals of the first signal type from the block.

12.   (Original) The method of Claim 5 further comprising the steps of
        generating one or more signals of the second signal type using the block; and
        outputting the one or more signals of the second signal type from the block.

13.   (Currently Amended) The method of Claim 5 further comprising the steps of
        generating one or more signals of a third signal type using the block; and
        outputting the one or more signals of the third signal type from the block, wherein the
third signal type has a definition defining a class distinct from a class of the first signal type and
a class of the second signal type.~~14.   The method of Claim 1, further comprising the step of
registering at least one of the first and second signal types with a registry of the graphical
modeling environment.~~

14.   (Original) The method of Claim 1, wherein the first signal type and the second signal type each have one or more attributes.

15.   (Original) The method of Claim 1, wherein the first signal type and the second signal type are each capable of including one or more methods.

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16.   (Original) The method of Claim 1, further comprising the step of, rendering on a display of the electronic device a first graphical form representing the first signal type and a second graphical form representing the second signal type.

17.   (Original) The method of Claim 1, further comprises the steps of rendering on a display of the electronic device a first graphical form representing the first signal type and the second signal type.

18.   (Original) The method of Claim 1, wherein each signal type comprises a class.

19.   (Original) The method of Claim 1, wherein each signal type comprises, a data structure having one or more attributes, and a procedure structure having one or more methods.

20.   (Original) The method of Claim 1, further comprising the steps of

        instantiating the signal of the first signal type in the graphical modeling environment, and

        restricting instantiation of a signal of the second signal type in the graphical modeling

environment.

21.   (Original) The method of Claim 1, further comprising the steps of

        instantiating the signal of the first signal type in the graphical modeling environment; and

        instantiating a signal of the second signal type in the graphical modeling environment.

22.   (Currently Amended) The method of Claim [[14]]89, wherein the registry includes a mechanism for use in describing the inheritance of the second signal type from the first signal type.

23.   (Original) The method of Claim 1, wherein the step of defining comprises a step of defining the second signal type using a mechanism of a programming environment distinct from the graphical modeling environment.

24.   (Original) In a graphical modeling environment a method, comprising the steps of,

        providing a first object class that represents a first signal type;

defining a second object class that inherits from the first object class; and

instantiating an object of the second object class in representing a second signal type in the graphical modeling environment.

25.   (Original) The method of Claim 24, wherein the graphical modeling environment comprises a programming environment for developing and performing scientific related functions.

26.   (Original) The method of Claim 24, further comprising the steps of,

defining a third object class that inherits selected features from the first object class the third object class representing a third signal type in the graphical modeling environment.

27.   (Original) The method of Claim 26, further comprising the step of instantiating an object of the third object class in representing the third signal type in the graphical modeling environment.

28.   (Original) The method of Claim 24, further comprising the steps of,

extending the second object class to include one or more features distinct from features of the first object class in the graphical modeling environment.

29.   (Original) The method of Claim 28 further comprising the step of instantiating an object of the extended second object class in representing a fourth signal type in the graphical modeling environment.

30.   (Original) In an electronic device that provides a graphical modeling environment, a method, comprising the steps of,

providing two or more base object classes, each of the base object classes representing a signal type;

defining a first object sub-class that inherits from at least two of the base object classes; and

instantiating an object of the first object sub-class in representing a signal in the graphical modeling environment.

31.　　(Original) The method of Claim 30, wherein the instantiating of the object of the first object sub-class representing the signal in the graphical modeling environment is performed in a selected block in the graphical modeling environment.

32.　　(Original) The method of Claim 30, further comprising the steps of,

defining a second object sub-class that inherits from at least two of the base object classes;

constraining one or more base class attributes in defining the second object sub-class; and

instantiating an object of the second object sub-class in representing a signal in the graphical modeling environment.

33.　　(Original) The method of Claim 32 further comprising the step of adding features to the second object sub-class in defining the second object sub-class.

34.　　(Original) In an electronic device that provides a graphical modeling environment, a method, comprising steps of

providing a first parent class that represents a first parent signal type;

providing a second parent class that represents a second parent signal type; and

defining a first derived class that inherits from the first and the second parent signal class.

35.　　(Original) The method of Claim 34, further comprising step of instantiating an object of the derived class representing a derived signal type in the graphical modeling environment.

36.　　(Original) The method of Claim 35, wherein the step of instantiating is performed in a selected block in the graphical modeling environment.

37.　　(Original) The method of Claim 34 further comprising the steps of,

defining a second derived class that inherits from at least two of the parent classes: and

constraining one or more parent class attributes in defining the second derived class in the graphical modeling environment.

38.   (Original) The method of Claim 34 further comprising the step of adding features to the derived class in defining the derived class.

39.   (Original) The method of Claim 36, further comprising the steps of
defining a second derived class that inherits from one of the first and second parent signal class; and
adding features to the second derived class in defining the second derived class.

40.   (Original) In an electronic device that provides a graphical modeling environment, a method, comprising the steps of,
providing a first block that outputs an instance of a first object class that represents a first signal type,
propagating the instance of the first object class from the first block to a second block in the graphical modeling environment, the second block processing a feature of the first object class; and
propagating from an output of the second block an instance of a second object class that inherits from the first object class, wherein the instance of the second object class represents a second signal type in the graphical modeling environment.

41.   (Original) The method of Claim 34, wherein the one or more parent classes are not visually depicted in the graphical modeling environment.

42.   (Original) The method of Claim 34, wherein the one or more parent classes are programmatically defined in an environment distinct from the graphical modeling environment.

43.   (Original) The method of Claim 40 further comprising the step of propagating from an output of the second block, an instance of a third object class that inherits from the first object class and adds other features, wherein the instance of the third object class represents a third signal type in the graphical modeling environment.

44.   (Original) The method of Claim 34, wherein the one or more parent classes are programmatically defined in the graphical modeling environment.

45.   (Original) The method of Claim 34, wherein the one or more parent classes are imported from an environment from another graphical modeling environment.

46.   (Original) The method of Claim 40, further comprising the steps of,

propagating an instance of the second object class from an output of the second block to a third block in the graphical modeling environment, wherein the instance of the second object class representing the second signal type, and

in the third block, processing a feature of the first object class inherited by the second object class.

47.   (Original) The method of Claim 46, further comprising the steps of,

in the third block, processing the instance of the second object class to separate therefrom the features inherited from the first object class; and

propagating from an output of the third block an instance of the first object class in representing the first signal type in the graphical modeling environment.

48.   (Original) The method of Claim 46, further comprising the steps of,

defining a third object class that inherits from the first and second object classes; and

instantiating an object of the third object class in the third block in representing the third signal type in the graphical modeling environment.

49.   (Original) The method of Claim 40, further comprising the steps of,

defining a third block in the graphical modeling environment;

receiving at an input of the third block a signal type representing an instance of the second object class; and

in the third block, decomposing the instance of the second object class into one or more signal components, each signal component representing instances of an object class to produce signal types representing instances of the component object classes output from the third block.

50.   (Original) The first method of Claim 49, further comprising the step of

in the third block, decomposing the instance of the second object class to produce a signal type representing an instance of the first object class at a first output of the third block and produce a signal type representing an instance of the second object class at a second output of the third block.

51.   (Original) The method of Claim 40, further comprising the steps of;

defining a fourth block in the graphical modeling environment;

receiving at a first input of the fourth block a signal type representing an instance of the first object class;

receiving at a second input of the fourth block a signal type representing an instance of the second object class;

in the fourth block, instantiating an object of a third object class that inherits from the first and second object classes; and

representing an instance of the object of the third object class as a third signal type propagating from an output of the fourth block.

52.   (Original) A device readable medium holding device executable instructions for performing a method in a graphical modeling environment, comprising,

defining a first signal type in the graphical modeling environment; and

defining a second signal type that inherits from the first signal type, wherein said second signal type is programmatically defined in the graphical modeling environment.

53.   (Original) The method of Claim 52, further comprising the step of saving at least one of the first and second signal types in a memory location accessible to the graphical modeling environment.

54.   (Original) The method of Claim 52, wherein the first signal type and the second signal type each have one or more attributes.

55.   (Original) The method of Claim 52, wherein the first signal type and the second signal type are each capable of including one or more methods.

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56.   (Original) The method of Claim 52, further comprising the steps of, rendering on a display of the electronic device a first graphical form representing the first signal type and a second graphical from representing the second signal type.

57.   (Original) The method of Claim 52, wherein each signal type comprises an object class.

58.   (Original) The method of Claim 52, wherein each signal type comprises, a data structure having one or more attributes, each of the attributes are interpreted by each block in the graphical modeling environment based on a processing requirement of the block.

59.   (Original) The method of Claim 53, wherein each signal type comprises, a data structure having one or more methods, each of the methods being used by each block in the graphical modeling environment based on the processing requirement of the block.

60.   (Original) A device readable medium holding device executable instructions for performing a method in a graphical modeling environment, comprising,

    creating a first class that represents a first signal type;

    creating a second class that inherits from the first class; and

    instantiating an object of the second class in representing a second signal type in the graphical modeling environment.

61.   (Original) The method of Claim 60, further comprising the steps of,

    creating a third class that inherits selected features from the first class; and

    instantiating an object of the third class in representing a third signal type in the graphical modeling environment.

62.   (Original) The method of Claim 60, further comprising the steps of,

    defining a fourth class to extend the second class; and

    instantiating an object of the fourth class representing a fourth signal type in the graphical modeling environment.

63.   (Original) A device readable medium holding device executable instructions for performing a method in a graphical modeling environment, comprising,

 defining two or more base object classes, each of the base object classes representing a signal type in the graphical modeling environment;

 defining a first object sub-class that inherits from at least two of the base object classes; and

 instantiating an object of the first object sub-class in representing a signal type in the graphical modeling environment.

64.   (Original) The method of Claim 63, wherein the instantiating of the object of the first object sub-class representing the signal in the graphical modeling environment is performed in a selected block in the graphical modeling environment.

65.   (Original) The method of Claim 63, further comprising the steps of,

 defining a second object sub-class that inherits from at least two of the base object classes; and

 constraining one or more base class attributes in defining the second object sub-class.

66.   (Original) The method of Claim 65 further comprising the step of instantiating an object of the second object sub-class in representing a signal type in the graphical modeling environment.

67.   (Original) The method of Claim 65, further comprising the step of adding features to the second object sub-class in defining the second object sub-class.

68.   (Original) A device readable medium holding device executable instructions for performing a method in a graphical modeling environment, comprising,

 providing a first block that outputs an instance of a first object class that represents a first signal type,

 communicating the instance of the first object class from the first block to a second block in the graphical modeling environment, the second block processing a feature of the first object class; and

in the second block, outputting an instance of a second object class that inherits from the first object class, wherein the instance of the second object class represents a second signal type in the graphical modeling environment.

69.   (Original) The method of Claim 68 further comprising the step of communicating from an output of the second block, an instance of a third object class that inherits from the first object class and adds other features, wherein the instance of the third object class represents a third signal type in the graphical modeling environment.

70.   (Original) The method of Claim 68, further comprising the steps of,
        communicating an instance of the second object class from an output of the second block to a third block in the graphical modeling environment, wherein the instance of the second object class represents the second signal type and
        in the third block, processing a feature of the first object class inherited by the second object class.

71.   (Original) The method of Claim 70, further comprising the steps of,
        in the third block, processing the instance of the second object class to separate therefrom the features inherited from the first object class; and
        communicating from an output of the third block an instance of the first object class in representing the first signal type in the graphical modeling environment.

72.   (Original) The method of Claim 70, further comprising the steps of,
        defining a third object class that inherits from the first and second object classes; and
        instantiating an object of the third object class in the third block in representing the third signal type in the graphical modeling environment.

73.   (Original) The method of Claim 68, further comprising the steps of,
        defining an interface block in the graphical modeling environment;
        receiving at an input of the interface block a signal type representing an instance of the second object class; and

in the interface block, decapsulating the instance of the second object class to produce a signal type representing an instance of the first object class at a first output of the interface block and produce a signal type representing an instance of the second object class at a second output of the interface block.

74.   (Original) The method of Claim 68, further comprising the steps of;

defining a block in the graphical modeling environment;

receiving at a first input of the block a signal type representing an instance of the first object class;

receiving at a second input of the block a signal type representing an instance of the second object class;

in the block, instantiating an object of a third object class that inherits from the first and second object classes; and

representing an instance of the object of the third object class as a third signal type propagating from an output of the joiner block.

75.   (Original) In a graphical modeling environment, a method comprising the steps of:

providing a first signal type for a first signal in the graphical modeling environment, said signal type deriving from a parent signal type; and

instantiating the first signal type in representing the first signal in a model in the graphical modeling environment.

76.   (Original) The method of Claim 75, wherein a second signal in the model in the graphical modeling environment represents the parent signal type.

77.   (Original) The method of Claim 75, further comprising the steps of:

providing a block in the graphical modeling environment having a structure and operation for processing a second signal representing the parent signal type;

receiving the first signal at a port of the block; and

the block processing a portion of the first signal using the structure and operation for processing the second signal representing the parent signal type.

78.   (Original) The method of Claim 77, in which the block is connected to one of the first signal and the second signal by means of graphically rendered ports, wherein said graphically rendered ports include a graphical representation capable of being viewed by a user.

79.   (Original) The method of Claim 77, in which a portion of the block is free of graphically rendered ports for connecting to one of the first signal and the second signal, wherein said portion of the block includes ports free of a graphical representation viewed by a user.

80.   (Original) A device readable medium holding device executable instructions for performing a method in a graphical modeling environment, comprising the steps of:

        providing a second signal type for a signal in the graphical modeling environment, said signal type deriving from a first signal type; and

        instantiating the second signal type in representing the signal in a model in the graphical modeling environment.

81.   (Original) The method of Claim 80, wherein the signal in the model in the graphical modeling environment represents the first signal type.

82.   (Original) The method of Claim 80, further comprising the steps of:

        providing a block in the graphical modeling environment having a structure and operation for processing a signal representing the first signal type;

        receiving the signal of the second signal type at a port of the block; and

        the block processing a portion of the signal using the structure and operation for processing the signal representing the signal type.

83.   (Original) The method of Claim 82, in which the block is connected to one or more of the first signal types and one or more of the second signal types by means of graphically rendered ports, wherein said graphically rendered ports include a graphical representation capable of being viewed by a user.

84.   (Original) The method of Claim 82, in which a portion of the block is free of graphically

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rendered ports for connecting to one or more of the first signal types and one or more of the second signal, wherein said portion of the block includes ports free of a graphical representation viewed by a user.

85.   (New) An electronic device for use in practicing a technical computing environment, the technical computing environment for developing and performing engineering and scientific related functions, the electronic device comprising,

an input device for use by a user; and

a graphical model environment providing a first signal type; and

an interface responsive to inputs from the user to communicate with the graphical model environment to define a second signal type that inherits from the first signal type.

86.   (New) The electronic device of Claim 85, further comprising a display device for viewing by the user, a graphical model having the second signal type.

87.   (New) The electronic device of Claim 85, further comprising a registry to retain class definition declarations of one or more signal types provided by the graphical model environment.

88.   (New) The electronic device of Claim 85, wherein the graphical model environment provides a block having a structure and operation for processing a signal representing the first signal type, the block being capable of receiving a signal representing the second signal type at a port of the block and processing a portion of the signal representing the second signal type using the structure and operation for processing the signal representing the first signal type.

89.   (Currently Amended) The method of Claim 1, further comprising the step of registering at least one of the first and second signal types with a registry of the graphical modeling environment.